

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the Application. No new matter has been introduced by way of the claim amendments. Current additions to the claims are noted with underlined text. Current deletions from the claims are indicated by text ~~strikethrough~~ or [[double bracketing]]. The status of each claim is indicated in parenthetical expression following the claim number.

WHAT IS CLAIMED IS:

1. (Currently Amended) A method comprising the steps of:
 - (a) suspending a quantity of functionalized carbon nanotubes in a first solvent to form a suspension comprising the first solvent and the quantity of functionalized carbon nanotubes; and
 - (b) heating said suspension to a temperature that will thermally defunctionalize the functionalized carbon nanotubes to form yielding a defunctionalized product;
wherein the defunctionalized product is resuspendable in a second solvent.
2. (Original) The method of Claim 1, wherein the carbon nanotubes are selected from the group consisting of single-wall carbon nanotubes (SWNTs), multi-wall carbon nanotubes (MWNTs), double-wall carbon nanotubes, semiconducting carbon nanotubes, metallic carbon nanotubes, semi-metallic carbon nanotubes, chiral carbon nanotubes, buckytubes, carbon fibrils, and combinations thereof.
3. (Currently Amended) The method of Claim 1, wherein the first solvent is thermally stable at the temperatures required for defunctionalization.
4. (Currently Amended) The method of Claim 1, wherein the first solvent is selected from the group consisting of ~~o-diechlorobenzene~~, benzene, toluene, water, sulfuric acid, oleum, sulfuric acid with dissolved potassium persulfate, liquid ammonia, liquid ammonia with dissolved alkali metals, alkanes, paraffins, thiophene, and combinations thereof.
5. (Currently Amended) The method of Claim 1, wherein the suspension is completely enclosed in a pressure vessel.

6. (Previously Amended) The method of Claim 1, wherein the suspension further comprises a polymeric species.
7. (Previously Amended) The method of Claim 1, wherein the suspension further comprises a surfactant.
8. (Currently Amended) The method of Claim 1, wherein the defunctionalized product is selected from the group consisting of completely defunctionalized unfunctionalized carbon nanotubes, partially defunctionalized carbon nanotubes; and combinations thereof.
9. (Currently Amended) The method of Claim 1, wherein the defunctionalized product is generally homogenous functionally uniform.
10. (Cancelled)
11. (Currently Amended) The method of Claim 1, wherein the functionalized carbon nanotubes are selectively defunctionalized according to their different (n,m) types, said (n,m) types displaying differential propensities for defunctionalization.
- 12 – 14. (Cancelled)
15. (New) The method of Claim 1, wherein the first solvent comprises o-dichlorobenzene.